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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,695	08/03/2001	Pierre Olry	BDL-356XX	6216

207 7590 02/05/2003

WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP
TEN POST OFFICE SQUARE
BOSTON, MA 02109

EXAMINER

LISH, PETER J

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 02/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,695

Applicant(s)

OLRY ET AL.

Examiner

Peter J Lish

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishino et al. (USPN 4,409,125) taken with Simpson (USPN 4,274,979).

Nishino discloses a method for the continuous carbonization and activation of cellulosic fibers, specifically vegetable fibers, whereby the fibers are carbonized under an inert gas, such as nitrogen, for between about 0.25-2 hours at temperatures up to 750 °C and preferably up to 650 °C (column 2, lines 60-65). The heating up rate is about 5 °C/min to 75 °C/min and preferably about 10 °C/min to 45 °C/min (column 2, line 65 to column 3, line 9). Nishino does not teach a method which incorporates the use of plural heating rates.

Simpson, in an equivalent process, teaches that the properties of the carbon product are dependent on the heating rate in the carbonization operation. Rapid increase has deleterious effects, yet too slow of an increase renders the treatment economically impractical. It is especially important that the rate of heating up to temperatures in the region of 300 °C to 350 °C be kept low, otherwise the product tends to be brittle (column 5, lines 45-65). Furthermore, Simpson teaches that the temperature of the furnace may advantageously be held for a short

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period in the range of from 315 °C to 350 °C to ensure that carbonization is substantially complete (column 6, lines 9-21). Simpson also teaches the use of a temperature program (column 7, lines 3-16) which uses plural heating rates and holding periods to efficiently carbonize the cellulose fiber.

It would be obvious to one of ordinary skill to use plural heating rates and holding periods (or successive zones), in the process of Nishino, in order to come to an efficient relationship between the properties of the product and the economic effects of the treatment process. It would also be obvious to one of ordinary skill to perform the slowest mean heating rates in the temperature region where it is most crucial. Additionally, it would be obvious to provide a longer treatment at a temperature just below about 350 °C which may be accomplished with a holding period as in Simpson, or equivalently with a slower mean heating rate.

The selection of specific mean heating rates and temperature ranges within those taught by Nishino is deemed to be an optimization of a known process, held to be obvious by In re Boesch (205 USPQ 215). This consideration is backed by the teachings of Simpson, as well as the applicant's admission that 'the selection of this particular temperature profile satisfies the concern to find the best compromise between the quality of carbonization, the quality of the fabric, and keeping production costs down to an acceptable level' (page 4, lines 20-30).

Regarding claims 4-6 and 11-13, Simon also teaches that the treated cellulose material may be dried at a temperature in the range of from room temperature to 140 °C or more on a heated air bed (column 2, lines 58-61 and column 9, lines 23-25). While Simon does not specify the drying time, it is expected that it will be equivalent to that claimed by the applicant, as the same effect is desired and the temperature is variable within the an equivalent range.

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While Nishino et al. deals with a cellulose fiber material, Simpson teaches that the fibrous cellulose material may be in the form of a single filament or as a staple fiber, but is preferably a cellulosic cloth. Thus it would be obvious to use a cellulosic cloth in the treatment of Nishino et al., as it is taught by Simpson to be equivalent to a cellulose fiber in that they are identically treated.

Claims 7-8,14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishino et al. and Simpson as applied to claims 1-6, and 9-13 above, and further in view of Perkins (GB 1,136,349).

Neither Nishino et al. nor Simpson teach the graphitization of the carbonized fibers. Perkins teaches that carbon fibers, produced from a similar treatment of cellulose material, may be graphitized by quickly heating from 800 °C up to 2800 °C in a 10 minute time period (Table 1). It would have been obvious to one of ordinary skill at the time of invention to perform the graphitization treatment of Perkins on the carbon fiber produced by Nishino et al. and Simpson, in order to produce a graphite product.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Lish whose telephone number is 703-308-1772. The examiner can normally be reached on 9:00-6:00 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the

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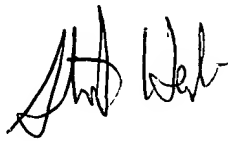
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organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

PL

January 24, 2003



STUART L. HENDRICKSON
PRIMARY EXAMINER